

EXECUTIVE SUMMARY

360networks, inc. (formerly Worldwide Fiber) of Vancouver, British Columbia (BC), Canada (the applicant) is proposing the Hibernia Transatlantic Telecommunications Project (Hibernia) to provide high-capacity fiber-optic connections between the United States (U.S.) and Europe. The overall project envisions a communications system that is highly efficient in quality and reliability, designed to minimize potential disruptions of data transmission resulting from network cuts and outages.

The overall Hibernia project would provide the first direct connection between the Republic of Ireland and North America. The increasing demand for global voice and data transmission capability requires the continuing installation of state-of-the-art fiber-optic cables, particularly between densely populated areas of the globe. Existing cable systems across the Atlantic Ocean are or shortly will be at maximum transmission capability, leaving no room for expansion as demand for electronic communications (telephone, facsimile, electronic mail, and the Internet) increases. The proposed Hibernia project would add additional data transmission capability across the Atlantic Ocean.

The Boston, Massachusetts (MA) metropolitan area, being the chief center of commerce in the New England region, was selected as the project terminus in the U.S. To serve that area, portions of Massachusetts Bay closest to metropolitan Boston were evaluated for potential landing sites. A landing site at Lynn Beach, MA is proposed because it is relatively close to Boston and offers favorable shoreline conditions, and because the proposed cable route to the landing site would avoid shipping lanes and dredge channels associated with Boston Harbor.

The portion of the Hibernia project that will lie between Boston and Nova Scotia, Canada includes a segment that is proposed to traverse the Stellwagen Bank National Marine Sanctuary (NMS), which is managed by the National Ocean Service (NOS), of the U.S. National Oceanic and Atmospheric Administration (NOAA). NOAA performed this Environmental Assessment (EA) to analyze the potential environmental effects of this section of the proposed project and to support NOAA's decision-making process.

The applicant's Preferred Alternative is to traverse approximately 19.49 kilometers (km) of the Stellwagen Bank NMS. The applicant also considered, and this EA evaluates, a Northern Alternative that would not cross Stellwagen Bank NMS. Under a third alternative, the No Action Alternative, the proposed submarine cable would not be installed in the subject area. The Preferred Alternative and the Northern Alternative cable routes were identified as alternatives through the application of a series of criteria that address technical feasibility and the minimization of potential environmental effects. Figure ES-1 shows the project area and the two alternative cable routes.

Stellwagen Bank NMS is located approximately 25 nautical miles (mi) east of Boston, at the eastern edge of Massachusetts Bay. The Sanctuary occupies approximately 638 square nautical mi (842 square mi), extending from Cape Ann to Cape Cod, MA. Stellwagen Bank itself is an important geological feature located within the sanctuary. NOAA administers the Stellwagen Bank NMS under the 1972 Marine Protection, Research, and Sanctuaries Act.

To minimize potential effects on navigation, the fishing industry, other maritime activities, and environmental resources, it is proposed that the undersea cable be installed at a depth of approximately 1.5 meters (m) beneath the sea bed. The proposed installation would occur between the 1,500 m depth contour and the 5 m depth contour, offshore of the proposed cable landing location at Lynn Beach, MA. Burial of the fiber-optic cable also would protect it from potential failures, or faults. To minimize

environmental effects, the land portion of the cable route, between Lynn Beach and the cable station, would be located underground and would run primarily along existing roadways.

To install the cable beneath the sea bed, the applicant would use advanced technologies that minimize environmental effects on marine resources. The installation process would use directional drill technology to install cable conduits in the nearshore areas, including Lynn Beach and Nahant Bay, to the 5 m water depth contour. A “sea plow,” a cable installation machine that is controlled from a cable ship, would be used to bury the cable in water deeper than 5 meters. This sea plow would be used for all cable installation within the Stellwagen Bank NMS.

In addition to this EA, the U.S. Army Corps of Engineers (USACE) Rivers and Harbors Act Section 10 permit, which is located in Appendix A of this document, addresses potential effects on marine activities and resources. Mitigation measures are activities or procedures designed to minimize or avoid potential environmental effects. Detailed mitigation measures that would be required of the applicant will be listed in the NOAA authorization and Special Use Permit, if issued, and an accompanying mitigation check-list.

This proposal has undergone extensive regulatory review. Permits and approvals from numerous federal, state and local agencies are required before the proposed cable installation is approved. In addition, consultations with the National Marine Fisheries Service (NMFS) of NOAA, and the U.S. Fish and Wildlife Service (FWS) are required under the Marine Mammal Protection Act and Endangered Species Act, respectively. Section 1.3 and Table 1-1 provide details on required permits and consultations.

Figure ES-1: Project Area, Preferred Route, and Northern Alternative Route (Earth Tech 1999)

